

Social connectedness as resource of resilience: Italian validation of the Social Connectedness Scale - Revised

Social connectedness come risorsa di resilienza: validazione italiana della Social Connectedness Scale - Revised

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Summary

Objectives

Considering social variables influencing psychological well-being and protecting from development of mental disease, social support received great attention. In recent years the focus shifted toward more general constructs that can account for stability and coherence of the scheme that each person applies to relate to the social world as a whole. The construct of social connectedness seems to be closest to this aim. In this study, we present the validation of the Social Connectedness Scale - Revised (SCS-R) developed by Lee et al. on a sample of Italian general population.

Methods

We collected data from 197 subjects heterogeneous for gender and age. We then investigated the validity of the scale through an exploratory factor analysis and its reliability by calculating Cronbach's Alpha. Differences in the mean scores of SCS-R due to gender, age and education were investigated. To test the criterion validity of the scale, we analyzed the correlations between the SCS-R and a multidimensional measure of resiliency and with some symptoms of psychological suffering. Finally, we analyzed the relations between SCS-R and a self-rated measure of perceived physical health.

Results

The analyses confirmed the uni-dimensional factor structure of the scale and the good reliability of SCS-R on this sample of Ital-

ian population. No differences due to demographics emerged. The correlations between SCS-R and the six resiliency dimensions measured by the Resiliency Scale for Adults (RSA) were all positive and statistically significant (but with Structured Style), and the highest correlations emerged with the social and individual competence resiliency dimensions. In contrast, the correlations between SCS-R and the psychopathology dimensions were all negative and significant, and the highest correlation was with depression, confirming previous results. It is interesting to underline the positive correlation between SCS-R and participants' satisfaction with their physical health.

Discussion

The SCS-R confirmed good psychometrics in an Italian sample. Validity and reliability indexes were good. Investigating the criterion validity, we found evidence that confirms previous results about the protective role of social connectedness on psychopathology, and the negative correlations with depression, hostility and anxiety corroborated previous results. It should be underlined that the SCS-R correlated with a multidimensional measure of resiliency, and particularly with the resiliency dimensions that address personal and social competence dimensions in coping with negative events. Further studies are needed to clarify the relations of causality among these constructs.

Key words

Social competence • Resiliency • Psychological dysfunction • Social support • Physical and mental health

Introduction

The need to belong is one of the most fundamental needs of human beings. The need for people to establish relationships, social bonds and to participate in social activities has been found to be substantial¹. Because humans are born with the need to be connected with others, when this need is not met, difficulties in maintaining relationships emerge and social activities are avoided because of the fear to be rejected. Social isolation, deficits in belong-

ingness and a lack of meaning or purpose in life¹, with a negative impact on health, adjustment and well-being²⁻⁴ can be the consequence.

Numerous studies have demonstrated that approaches taking into account only the personal sphere of individual functioning tend to be limited because they do not consider the social world^{5,6}. Thus, research on the determinants of health enlarged the range of inquiry adding to the personal variables the relational and social dimensions that

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can affect health status. Links among these three variables emerged, confirming their interrelation and integration in a framework that sustains individuals during life⁷⁻¹⁰.

Studies that investigated social isolation in influencing health problems tend to focus on quantitative measures as the number of relationships, social interactions, or the extent of networks. The use of subjective measures focusing on subjective feelings and cognition of social ties are however crucial in determining social integration¹¹.

There is an extensive research on social support as a protective factor that influences physical and mental health¹²⁻¹⁴. Growing literature on other social competence dimensions shows how there are more levels of individual functioning in the social context that can affect psychological adaptation and physical and mental well-being^{2 15}.

Among these social dimensions of individual functioning, social connectedness (SC) received empirical support with respect to its role as protective factor and mediator between specific dimensions of social support (e.g. family, school mates, colleagues) and psychological functioning^{16 17}.

Social connectedness refers to the person's subjective awareness of being in close relationship with the social world *in toto*¹⁸, and it is an attribute of the self that reflects cognitions of enduring interpersonal closeness with the social world¹⁷.

SC is different from social support or social engagement, which are more specific constructs¹⁷. Lack of social support perception may be linked to specific events, such as losing a loved person or breaking a friendship. Lack of social connectedness instead indicates a difficulty in relationship with the social world. Finally, SC is different from belongingness, which refers to the perception of being part of a group or affiliated to some peers^{1 16}.

Empirical studies have found that SC correlated with social competence and self-esteem, acting as protective factor leading to less anxiety, depressive symptoms, rejection sensitivity and social avoidance¹⁵⁻¹⁹.

SC has gained a relevant role in the study of personal determinants of well-being and protective factors from maladaptation, even in the lack of a shared and operative construct definition. Lee et al.¹⁶ conceptualized the construct of social connectedness as a global feature of the self, reflecting wide-ranging beliefs and attitudes about relationships and the general "other", about the ability to understand the others, to participate in social activities, to feel close to other people and empathize with them. SC is a stable characteristic (trait-like) of an individual that develops early in childhood and arises from all the social and relational experiences. SC tend to be stable during adulthood and contribute to determine our sense of self¹⁹. On the basis of these concepts, Lee et al. developed the Social Connected Scale and the Social Connected Scale - Revised (SCS-R)^{16 18}.

In the current study, we validated the SCS-R in an Italian sample. To do this, we tested the internal validity and reliability of the SCS-R and investigated the criterion validity. To better investigate the psychometric characteristics of the scale, we tested the existence of differences due to gender, age and education. We expected that the SCS-R would be related to high levels of resiliency, and in particular with the resiliency dimensions that refer to interpersonal and individual competence. We further investigated the relationships with symptoms of psychological suffering, positing a negative correlations with depression, anxiety, hostility, interpersonal sensitivity and social avoidance.

Materials and methods

Participants

The sample of participants included 197 individuals who provided complete data on the variables of interest (three subjects were excluded because of lack of data). This sample showed substantial variance on key demographic characteristics: Age $M = 36.1$ ($SD = 13.9$); 79 males and 118 female; 103 (52%) participants were single, 82 (42.2%) participants were married (73) or lived together (9); 7 were divorced and 2 were widowed. Ninety-nine (51%) participants earned at least a high-school degree. Finally, 53.6% were employed, 28.7% were students, the remaining were retired, unemployed and housewives.

Measures

Social Connectedness

The original SCS was an 8-item scale with all items negatively worded and showed both psychometric problems due to non-normal distribution and theoretical problems, not providing the scale with a complete operative description of the construct. The SCS-R¹⁶ is comprised of 20 items assessing experiences of closeness in interpersonal contexts, as well as difficulties establishing and maintaining a sense of closeness. Ten items are negatively worded while the remaining are positively worded. Sample items include "I don't feel I participate with anyone or any group" and "I am in tune with the world." Negatively worded items are reverse scored so that a higher score indicates a greater degree of social connectedness. The SCS-R uses a 6-point rating scale (1 = strongly disagree to 6 = strongly agree). The scale can reach a score comprised between 20 and 120 with an item mean score comprised between 1 and 6. Authors consider a mean item score equal or greater than 3.5 (slightly agree to strongly agree) as indicating a greater tendency to feel socially connected.

Resiliency

Resiliency was evaluated by means of the Resiliency Scale for Adults (RSA), a 33 item self-report scale^{20 21 34}.

The participant answered on a 7-point semantic differential scale in which each item has positive and a negative attribute at each end of the scale continuum. The RSA items measure intrapersonal and interpersonal protective factors presumed to protect from psychosocial adversities and have been developed following the tradition on resiliency studies that found that this is a multidimensional construct rising from a threefold source: psychological/dispositional attributes, family support and cohesion and external support system^{22 23}. The RSA measures six resiliency factors (1) perception of self, (2) planned future, (3) social competence, (4) structured style, (5) family cohesion and (6) social resources; a total score can be also computed.

Psychopathology

To assess the psychological symptom status of participants, we used the Brief Symptom Inventory (BSI)²⁴. The BSI is a 53-item self-report instrument, which is a brief form of the Symptom Checklist (SCL-90-R)^{25 26}. Each item of the BSI is rated on a 5-point scale, from 0 = not at all to 4 = extremely.

The BSI shows good validity and reliability²⁷; it measures the same 9 primary symptoms measured by the SCL-90-R: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. Otherwise, three global indexes of distress can be computed: the General Severity Index (GSI) that expresses the global level of psychological distress experienced by the subject; the Positive Symptom Distress Index; and the Positive Symptom Total. For the aim of the present study, we computed the nine symptoms and the GSI scores.

Socio-demographics and self-rated physical health status

Information was collected about socio-demographics of participants (age, sex, working status, education), who were asked to evaluate their level of satisfaction for physical health status on a scale from 0 = extremely unsatisfied to 10 = extremely satisfied.

Procedure

We collected the questionnaires through the collaboration of 50 students at the University of L'Aquila. Each student was requested to collect questionnaires and socio-demographic data from four people, equally distributed by gender and age. Students were briefed on the general aims of the research and instructed on how to administer the instruments. Two questionnaires should be filled by 2 subjects (1 male and 1 female) of an age range from 18 to 35 and the other two questionnaires should be filled by 1 male and 1 female with an age range from 36 to 55.

All students received a course credit for their involvement.

Translation Procedures

After authorization from the authors, the scale was translated from American English and adapted in Italian using a back-translation procedure²⁸. Two bilingual individuals translated from English to Italian, and then two new independent bilingual persons did a back translation from Italian to English. All four versions (i.e. the two Italian independent translations and the two English back translations) were sent back to the authors to compare them with the original and determine the best translation that retained the original meaning of the items.

Statistical analysis

We analyzed the psychometric properties of the SCS-R, focusing on internal validity and consistency. Internal consistency of the scale was evaluated by computing Cronbach's alpha. An exploratory factor analysis (principal component method) was conducted to examine the factor structure. A further analysis of construct validity was implemented examining the differences on SCS-R due to gender, age and education.

We next investigated the criterion validity of the scale by examining the degree to which it is related to the indicators of psychological functioning, i.e. the 6 resiliency dimensions measured by the RSA and the 9 psychopathological symptoms and the GSI measured by the BSI. Correlations were performed using the Pearson's *r*. We used an alpha level of 0.003 to adjust for Type I error (0.05 ÷ 15 correlations).

All statistical analyses were carried out using Statistical Package for Social Science (SPSS Inc., Chicago 2006), version 14.0.

Results

Psychometrics

Means, standard deviation, skewness and kurtosis were calculated for all the 20 items of the SCS-R and for the overall scale. The mean scale score was 91 (SD = 13.83) and the mean SCS-R item score was 4.55 (SD = 0.70). The scores revealed a reasonably normal distribution: the mean item skewness and kurtosis were -0.50 (SD = 0.17) and -0.17 (SD = 0.34), respectively. A total of 175 subjects (88.8%) reported a greater tendency to feel socially connected as shown by a mean item score ≥ 3.5 , while the remaining 11.2% of the sample ($n = 22$) reported a greater tendency to feel disconnected. The internal item reliability measured by Cronbach's Alpha was good ($\alpha = 0.88$). Figure 1 shows the mean item distribution of the SCS-R. As can be seen, none of the participants

answered all 20 items 1 (strongly disagree) or 6 (strongly agree). No differences in demographics were found.

Dimensionality

An exploratory factor analysis was carried out on the 20 items of the Social Connectedness Scale - Revised (SCS-R). Five factors with eigenvalues higher than 1 were extracted: a first factor accounting for 32% of total variance, and the remaining four accounting for 7.7, 6.6, 5.2, and 5%, respectively. A scree plot test confirmed the selection of only one factor. Factor loadings on the first factor were higher than 0.50, and just three items (item 1, 3, and 13; loadings 0.47, 0.42 and 0.32 respectively) showed lower loadings (Table I).

Relationships between social connectedness and psychosocial functioning indicators

We examined the correlations of the SCS-R score with the six resiliency dimensions measured by the RSA, and the nine psychological distress symptoms and the GSI measured by the BSI; finally, we analyzed correlations with

the self-rated satisfaction respect to participants' physical status. (Table II). Results corroborated the criterion validity of the scale.

Concerning the relations with resiliency, the social connectedness measure showed positive and significant correlations with all six dimensions of resiliency and with the RSA total score. As expected, the highest correlation was with the resiliency dimension of social competence ($r = 0.58$). The correlations between SCS-R and the two resiliency dimension referring to the dispositional source of resiliency that were ≥ 0.50 included perception of self ($r = 0.51$) and planned future ($r = 0.50$).

The correlations between SCS-R and the BSI dimensions confirm the results of previous studies. SCS-R correlates negatively with all nine symptoms assessed by the BSI and with the GSI. In agreement with previous studies, the highest negative correlation was with depression ($r = -0.46$). Negative and significant correlation emerged with interpersonal sensitivity ($r = -0.43$), hostility ($r = -0.42$), paranoid ideation ($r = -0.41$) and psychoticism ($r = -0.43$).

Finally, the correlation between SCS-R score and the self-

TABLE I.

Factor matrix from the Principal Component Analysis of the SCS-R items. *Matrice dell'analisi fattoriale per gli item della SCS-R (metodo delle componenti principali).*

Item	Factor 1
SCS_1 I feel comfortable in the presence of strangers	0.47
SCS_2 I am in tune with the world	0.64
SCS_3 Even among my friends, there is no sense of brother/sisterhood*	0.42
SCS_4. I fit in well in new situations	0.53
SCS_5 I feel close to people	0.53
SCS_6 I feel disconnected from the world around me*	0.54
SCS_7 Even around people I know, I don't feel that I really belong*	0.68
SCS_8. I see people as friendly and approachable	0.56
SCS_9 I feel like an outsider*	0.59
SCS_10 I feel understood by the people I know	0.60
SCS_11. I feel distant from people*	0.68
SCS_12 I am able to relate to my peers	0.52
SCS_13 I have little sense of togetherness with my peers*	0.32
SCS_14 I find myself actively involved in people's lives	0.59
SCS_15 I catch myself losing a sense of connectedness with society*	0.65
SCS_16 I am able to connect with other people	0.55
SCS_17 I see myself as a loner*	0.53
SCS_18 I don't feel related to most people*	0.56
SCS_19 My friends feel like family	0.57
SCS_20 I don't feel I participate with anyone or any group*	0.67

* Item score must be reversed

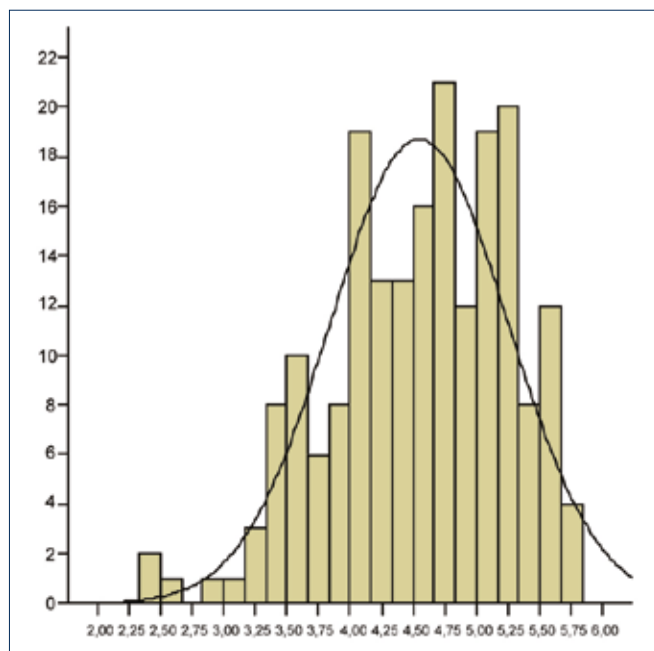


FIGURE 1. SCS-R item distribution (item range 1-6). *Distribuzione dei punteggi degli item della SCS-R (range 1-6).*

rated satisfaction of participants' physical health status was positive and significant ($r = 0.36$).

Discussion

To our knowledge this is the first study that addresses the validation of the scale outside the original Anglo-Saxon setting. The study of psychosocial dimensions that determine the health of individuals has become one of the pillars of the study of determinants of physical and mental health²⁹. Social isolation as well as other detrimental social factors have potentially negative effects on individual well-being and health³⁰.

In a recent investigation, Kawachi and Berkman³¹ underlined how structural and functional features of social membership play different roles: the former seem to influence levels of well-being irrespective of stress levels, while the latter are seen to operate as stress buffers. It is on these "subjective" variables that research on the relationships between social bonds and psychopathology is focused. The construct of social connectedness is pivotal in this new line of research.

Herein, we analyzed the psychometric characteristics of the SCS-R, a scale developed to assess the SC construct that reported good validity and reliability in the validation studies conducted by the authors¹⁶. Scale and mean items scores are comparable to those of previous validation, as well as the asymmetry indexes (i.e. Skewness and

TABLE II.

Correlations between SCS-R score and indicators of physical and mental functioning. *Correlazioni tra il punteggio della SCS-R e indicatori di funzionamento mentale e fisico.*

	Social Connectedness
Resiliency	
Perception of self	0.51*
Planned future	0.50*
Structured style	0.20
Social competence	0.58*
Family cohesion	0.34*
Social resources	0.42*
RSA total score	0.48*
Psychopathology	
Somatization	-0.24*
Obsession compulsion	-0.38*
Interpersonal sensitivity	-0.43*
Depression	-0.46*
Anxiety	-0.30*
Hostility	-0.42*
Phobic anxiety	-0.33*
Paranoid ideation	-0.41*
Psychoticism	-0.43*
Global Severity Index	-0.44*
Physical Health Satisfaction	0.36*
* $p < 0.003$; r coefficients > 0.40 are in bold	

Kurtosis). Similar percentages of people were classified as social connected (mean item score ≥ 3.5) vs. disconnected compared to those of the original validation study. No differences in the SC score emerged in comparisons by gender, age or education. These results need further investigation in a larger sample, insofar as no other studies performed these comparisons but for gender with inconsistent results^{16,32}. The Italian version of the SCS-R shows a high degree of reliability compared to the results obtained by the authors in the original validation studies. In our study, the SCS-R showed good internal and external consistency. Exploratory factor analysis corroborated the uni-dimensional factor structure of the scale¹⁶, with just three items showing saturations lower than 0.50. Among these three items, two ("I feel comfortable in the presence of strangers" and "Even among my friends, there is no sense of brother/sisterhood") confirmed the low, even if acceptable (0.47 and 0.42, respectively), consistencies as emerged from previous studies^{15,16}.

The item "I have little sense of togetherness with my

peers" low consistency (0.32) was seen in our study only, and further investigation is needed to clarify if this is an idiosyncratic characteristic of this sample or due to cultural differences from the previous validation.

Resiliency is a multidimensional concept variously defined as a personal trait protective against mental disorders and a dynamic process of adaptation to challenging life conditions³³. We intended to investigate how the SCS-R relates to various resiliency facets. Analyzing the correlations of these constructs, it is interesting to observe the highest correlation with the social competence factor, which measures evaluations of the perception of the person's ability to initiate verbal contact, to be flexible in social interactions and create new friendships³⁴. This result confirms the validity of the SC construct in measuring the person's subjective awareness of being in close relationship with the social world in general¹⁶⁻¹⁸. SC construct refers to the perception to be part of the social world and differs from the other measures addressing the social support experienced from belonging to specific groups (e.g. family).

A further confirmation of the criterion validity of the SCS-R is the observation of the positive and significant correlations with "perception of the self" and "planned future" resiliency dimensions, deriving from dispositional determinants²². This result confirms that the SCS-R construct is an independent feature of the self rather than a context-related construct¹⁶⁻¹⁷.

The literature reports that people with low levels of SC experience discomfort in social situations, feeling misunderstood or isolated, and unsatisfied with their relationships. Furthermore, past research confirms that the widespread social and relational difficulties experienced by those with low SC may contribute to more general psychological distress¹⁻¹⁶. Our study confirms previous results reporting that subjects with low SC show higher levels of depression and hostility¹⁶⁻¹⁷⁻¹⁹.

In our sample, high correlations emerged among the SCS-R score and BSI "interpersonal sensitivity", "paranoid ideation" and "psychoticism": these psychopathological dimensions relate to the difficulties of individuals facing the social world. In fact, the former identify people experiencing feelings of personal inadequacy and discomfort during interpersonal interactions, while the latter measures, in non-psychiatric samples as is our case, social alienation²⁴. This pattern of correlations demonstrates the criterion validity of the scale.

Finally, few studies have addressed the relations between SC and physiological measures related to physical health³⁵⁻³⁶. Our results show a positive correlation between SC and satisfaction for physical health, and thus we can speculate that SC is not just a protective factor for mental illness and a determinant of psychological well-being, but may also be related to physical health.

Notwithstanding the different cultural features and the relatively small sample size, the original uni-dimensional factor structure is confirmed. Even though the suggested ratio of subjects to variables in factorial analysis studies should be 5 to 1, as in our study, we acknowledge that the sample is somewhat limited.

Further research in larger samples is needed to better understand the relationship between SC and resiliency and how these two constructs contribute to protection from psychological suffering and sustain mental and physical well-being.

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